

COLONY OF MAURITIUS

ANNUAL REPORT

ON THE

DEPARTMENT OF AGRICULTURE

FOR THE YEAR 1922



PORT LOUIS

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No. 1578/23.

THE HONOURABLE THE COLONIAL SECRETARY,

I have the honour to submit the report on the Department of Agriculture and on Agricultural conditions in the Colony for the year 1922.

PART I

AGRICULTURAL CONDITIONS IN 1922

The weather conditions experienced during the growing season are summarised in the annexed tabular statement.

<i>Month and Year</i>		<i>Temperature</i>	<i>Rainfall</i>
1921			
November	...Above normal	...	...Considerably above normal
December	...Above normal	...	...Normal
1922			
January	...Normal	...	...Considerably above normal
February	...Below normal	...	...Normal
March ...	...Above normal	...	...Normal
April ...	...Markedly below normal	...	...Above normal
May ...	...Below normal	...	...Below normal
June ...	...Markedly below normal	...	...Markedly below normal
July ...	...Considerably below normal	...	...Below normal
August	...Below normal	...	...Normal
September	...Normal	...	...Normal
October	...Above normal	...	...Below normal
November	...Below normal	...	...Considerably below normal
December	...Normal	...	...Considerably below normal

The weather conditions were thus somewhat below normal.

Early in April, a gale followed by low temperatures and defective rainfall caused appreciable damage. On the other hand, weather conditions were quite favourable during the grinding season. The final estimate of the 1922-23 crop was 233.5 thousand metric tons, *i.e.* about 6% below normal.

In the Northern Districts, Pamplemousses and Rivière du Rempart and also in Plaines Wilhems and Moka, yields in the fields were practically normal while in the South, Grand Port and Savanne they were generally below. In the Eastern district of Flacq, yields were normal, and in Black River, very good.

SUGAR INDUSTRY

The following figures give the final Estimate of the 1922-23 crop, compared with the total output for the seven preceding years :

Sugar Production in 000 Metric Tons

District	1922 Final Estimate	1921	1920	1919	1918	1917	1916	1915
Pamplemousses & Riv. du Rempart	57.4	48.43	59.16	50.63	64.22	49.4	45.92	39.54
Flacq ...	39.5	33.77	45.35	36.86	43.69	39.7	35.04	37.94
Moka ...	30.0	28.04	37.58	35.24	34.70	31.7	31.38	34.91
Plaines Wilhems	20.7	14.54	21.36	19.38	19.34	17.9	15.74	13.45
Black River	8.8	6.15	7.57	6.54	6.25	6.5	6.08	5.13
Savanne ...	36.1	31.71	41.55	43.33	40.81	38.5	36.19	40.65
Grand Port	41.0	34.78	47.30	43.21	43.76	42.3	38.62	42.91
Total ...	233.5	197.42	259.87	235.19	252.77	226.0	208.97	214.53

Yield of Vesou Sugar.—Of the estimated crop of 233.5 thousand tons, for 1922-23, approximatively 97% will, it is anticipated, consist of Vesou sugar; very little first syrup will probably be produced and low syrup will approximate to 3% of the total crop.

The following table gives, for comparison, the percentage of vesou sugar on the total production for the past 10 years.

Year	% of Vesou	Year	% of Vesou
1913	80.06	1918	94.50
1914	82.01	1919	94.45
1915	82.60	1920	95.46
1916	80.23	1921	95.98
1917	89.85	1922	97.00 (estimated)

Factory work of 1922-23.—The average extraction of sugar, per cent of cane handled, is estimated at 10.7. Results for the previous decade are as follows:

Year	Commercial Sugar extracted % Cane	Year	Commercial Sugar extracted % Cane
1914	10.76	1919	10.42
1915	10.83	1920	10.76
1916	10.39	1921	9.90
1917	10.62	1922	10.70 (estimated.)
1918	10.95		

Factory work in 1921-22—The total tonnage of canes crushed for the crop, 1921-22 amounted to 1,996 thousand tons giving a mean extraction of sugar of 9.90 per cent of cane. This was the worst result experienced for the past twenty years and was due to the exceptionally unfavourable climatic conditions during the crushing season.

The following table exhibits the frequency distribution of extractions in 1921 as compared with 1920.

Extraction	Frequency distribution		Extraction	Frequency distribution	
	1921	1920		1921	1920
8.75— 8.99	2	0	Brought forward	44	11
9.00— 9.24	2	0	10.25—10.49	6	3
9.25— 9.49	6	0	10.50—10.74	2	13
9.50— 9.74	11	2	10.75—10.99	1	9
9.75— 9.99	7	3	11.00—11.24	1	11
10.00—10.24	16	6	11.25—11.49	0	3
			11.50—11.74	0	4
Carried over	44	11		54	54

Thus while in 1920 the usines having extractions between 10.50 and 11.24 numbered 33, in 1921 they were only 4.

On the other hand, extractions of 9.50 to 10.24 which, in 1920 were recorded in only 11 usines, were, in 1921, recorded in 34.

Owing to the exceptionally low extraction figures recorded during the last days of December 1921 and the beginning of 1922, many factories could not terminate their crop and an amount of cane estimated at between two and three thousand acres was left standing for next crop.

Factories conditions in 1922.—During the year 1922, two factories were dismantled, viz.: Pieterboth and St. Hubert so that the total number of factories at present at work in the Colony is 52. During the year, owing to unfavourable economic conditions, very little new machinery was introduced and practically all new machinery mounted had been ordered during the two previous years.

Conditions affecting the Sugar Industry.—The reaping of the crop for 1921-22 was conducted under very great difficulties; labour disturbances combined with the heavy rains which fell at intervals throughout the reaping season served to prolong the crop far beyond its normal limits. Added to this the torrential rains of the early part of 1922 further greatly handicapped those estates which had not finished their grinding operations; the result was that on many properties considerable areas of cane remained uncut.

The reaping of the crop for 1922-23 proceeded much more smoothly. The majority of estates commenced grinding at an earlier date than usual and the weather conditions throughout the reaping season were decidedly favourable for taking off the crop while labour conditions were easier than in the preceding year. Consequently by the end of the year sugar properties almost without exception had finished their reaping season.

Labour conditions were somewhat easier during the year 1922 than they had been previously and rates of pay fell appreciably with the decline of the price of sugar, although still remaining considerably above pre-war level.

A factor of importance in easing labour tension during the year has been the very important extension which has taken place in the use of tractors, ploughs and cultivators. No less than 37 tractors were imported into the Colony during the year 1922, the total value of ploughs and implements received amounting to Rs. 173,635. At present 47 tractors are at work on various estates.

Of the various marks of tractors employed, by far the most popular is the Cletrac Caterpillar tractor. This machine has demonstrated its suitability for work under Mauritius conditions and both the large and the small model have gained extensive employment. It was formerly thought that ploughs and tractors could only find employment on lands which were moderately free from stones but during the year this view has been shown to be erroneous and tractors are now being successfully used on some of the stoniest soils in Mauritius, their use having been found to be perfectly feasible provided the stones have been properly ranged in rows across the field beforehand.

Of the ploughs and cultivators in use, that which has come to the front during the past year has been the Oliver Disc Plough which has proved a most satisfactory implement for ploughing out cane stools and preparing land for planting, while the Oliver Double Mould Board Plough has shown its special utility in opening furrows for planting cane.

As indicated in last year's report information had been supplied during the year 1921 by the Tractor Experts of the English Ministry of Agriculture relative to types of tractors and implements likely to prove useful in Mauritius. In furtherance of the recommendations contained in this report the Government and the Chamber of Agriculture acting in co-operation arranged to import examples of the tractors and implements recommended by the Ministry, which had not previously been introduced into Mauritius. These importations arrived in 1922, the tractors imported were: the Austin wheeled tractor, the Wyles Motor Plough, the implements included the following: the Oliver Self Lift Plough, the Ransomes Sims & Jefferies double breasted Self Lift Plough, the Ransome Dreadnought bar pointed Plough packing 4 & 5, the Davey Sleep Horse Hoe, the Corbett William Victory Horse Hoe, and the Ruston & Hornsby Self Lift Plough.

The full list of tractors recommended by the Ministry was as follows: the Cletrac, the Austin, the Beeman and Wyles Motor Plough.

After the arrival of the tractors and implements, arrangements were made for the demonstration of the whole of the tractors and implements recommended by the Ministry of Agriculture at Mon Desert Sugar Estate during the month of November. On the occasion His Honour the Officer Administering the Government attended together with a large number of planters and others interested, who followed the demonstration with the keenest interest.

In the course of this demonstration the Cletrac sustained the favourable impression previously formed concerning it, the Beeman demonstrated its suitability for work in the interlines of cane cultivation, the Austin also demonstrated that it can prove useful for preparation of land, while the Wyles Motor Plough showed itself to be unsuited to local conditions.

It is in contemplation to hold a further series of trials during the current year and to test the performance of the various machines.

In relation to cultivators, the most satisfactory form for use in the Colony still remains to be discovered; owing to their light construction most of the ordinary cultivators are not sufficiently strong to withstand the wear and tear consequent on use in the stony and gravelly soils of Mauritius and the most successful cultivator, up to the present, has been one of simple design, made locally, and known as the "Daniel Cultivator."

With the very considerable field for the introduction of implements which exists in the Colony, there should be undoubted opening for manufacturers who can produce a type of cultivator suited to Mauritius conditions at a reasonable price.

Area under cultivation.—At the end of 1921, the area under cane cultivation was estimated to be 172,360 arpents or (179,780 acres) showing an increase of about 500 acres since the preceding year. During the year 1922 owing to labour difficulties and the fall in the price of sugar a marked decrease took place and at the end of 1922 the total acreage under cultivation in sugar was estimated to be 167,000 arpents (174,000 acres); that is to say a decrease of approximately 5,000 acres.

Indian Cultivation.—In the year 1921 the area cultivated in cane by Indian Planters was estimated at 79,000 arpents (82,400 acres) i.e. nearly 46% of the total area under cane cultivation.

In 1922 many pieces of land previously derelict and which had been placed under cane cultivation on account of the high prices of sugar were once more abandoned while many small growers who had been tempted to place the whole of their holdings under sugar once more reverted to fruit and vegetable growing once the high prices for sugar had passed.

Resumption of importation of labour from India.—During the year owing to labour difficulties a considerable amount of discussion took place with a view to the possible resumption of immigration from India and by the end of the year it had been arranged that a deputation representing the agricultural and official interests of the island should proceed to India with a view to discussing the question with the representatives of the Government of India.

Irrigation of Sugar Cane.—The La Ferme Irrigation scheme was completed by the commencement of the year 1922 and in January of that year the reservoir was finally filled up to its highest level.

About 3,000 Arpents of land were irrigated from the La Ferme Scheme during the year.

The Experiment Station for the investigation of irrigation problems was completed during the year and is now in active operation. Work in relation to the La Nicolière scheme was pushed on vigorously during the year; it is expected that this scheme will be completed in five years time.

Disposal of the Sugar crop.—The Sugar Planters Syndicate constituted under Ordinance No. 7 of 1921, continued operations, practically all planters adhering thereto. The mean prices at which the crops for 1920-21 and 1921-22 were sold were as follows:

1920-21	...	...	...	Rs. 50.68 per 50 kilos
1921-22	...	...	...	12.05 „

The account sales for 1922-23 have not yet been finally completed but the market improved considerably compared with the previous year, and it is anticipated that the average sale price will realise about Rs 14.70. Although the sale price for 1921-22 was well above the average realised during the war, nevertheless, owing to the greatly increased cost of production, very few estates managed to make a profit on the year's working while the majority recorded a loss. During the year 1922-23, improvement in prices combined with a decreased labour tension materially eased the situation and the majority of estates will close their accounts with a balance on the right side.

Pests and Diseases of the Sugar Cane.—The campaign for the control of *Phytlalus Smithi* was maintained on the same lines as the preceding year. The proceeds of the special tax of 20 cents per ton levied for the purpose of providing funds for the control of the pest being devoted to the work as on previous occasions.

The following figures give the number of insects captured since the beginning of the campaign.

Year	Beetles captured	Year	Beetles captured
1911-12	26,460,187	1916-17	72,292,689
1912-13	16,055,556	1917-18	70,035,663
1913-14	36,484,130	1918-19	71,119,278
1914-15	51,356,507	1919-20	30,969,504
1915-16	42,511,241	1920-21	23,269,513
		1921-22	26,599,496

The number of insects captured viz.: 26,599,496 was slightly more than the previous year.

The parasitic wasps *Tiphis parallela* and *Elis thoracica* continued to give satisfactory results in the control of this pest; other diseases of the sugar cane were not markedly in evidence. Root disease was met with sporadically as also sugar cane smut and red rot.

Experimental investigations in relation to the Sugar Industry.—Experimental investigations were continued during the year by the Department of Agriculture and comprised as on previous occasions experiments with varieties of sugar cane, fertilisers and manures.

Laboratory investigations have comprised questions in relation to soils especially the application of molasses, composition of feeding stuffs and the nutrition of the sugar cane. Statistical investigations have comprised an enquiry into correlation between crops and rainfall.

At the Experimental Station for investigating irrigation problems at Medine, an extensive series of trials has been laid down with a view to testing the effect of application of water at varying rates and at varying intervals on the growth of cane combined at the same time with trials of different varieties and different forms of manurial treatment.

SUBSIDIARY AGRICULTURAL INDUSTRIES

Interest in relation to subsidiary agricultural industries has revived to some extent during the year.

Aloe Fibre.—The high level of prices for Aloe Fibre which reigned at the commencement of 1922, i.e. in the region of Rs. 600 per ton were not maintained for long and by the middle of the year, values had fallen to Rs. 350 per ton i.e. a figure only slightly above the cost of production.

Exports for the past 7 years have been as follows :

1916	...	...	...	7,118 bales
1917	...	...	...	5,647 "
1918	...	...	...	1,974 "
1919	...	...	...	10,139 "
1920	...	...	...	3,500 "
1921	...	...	...	1,150 "
1922	...	...	...	3,120 "

Note.—There are 4 bales to the metric ton.

Interest continues to attach to the possibility of substituting the cultivation of Sisal for Furcraea ; one planter in the North of the Island has established about 300 acres under the crop and during the year imported a Robey decorticating machine and suction gas engine for extracting the fibre from leaves derived from his plantation. No details are as yet available as to the results of this enterprise. The Government Sisal plantation at Plaine Lauzun was extended up to a total area of 60 acres.

Production of Alcohol.—The production of alcohol for the past 7 years according to Treasury returns is as follows :

1915-16	...	1,091,485 litres	1919-20	...	1,666,000 litres
1916-17	...	1,883,607 "	1920-21	...	1,900,000 "
1917-18	...	1,602,414 "	1921-22	...	1,749,994 "
1918-19	...	1,529,315 "			

The operation of the new Liquor Licensing Law has exercised a very profound effect on the consumption of rum in the Colony. Figures for the production of rum in the year 1922 are not yet available but it is practically certain that a very great reduction in the production of alcohol will be seen in consequence. The consumption of rum in Mauritius had however reached an extraordinary high figure and this reduction must be counted as a benefit to the community.

The erection of a large distillery and etherification plant at St. Antoine Estate, in the north of the Island, was completed during the year. It is intended that this distillery shall produce Power Alcohol of the Natalite type for consumption in internal combustion engines. By the end of the year the plant had not commenced operations but it is anticipated that it will start work early in 1923.

The results of this experiment are awaited with considerable interest since if it is successful it is capable of profoundly affecting the economy of the sugar industry.

Tobacco.—Efforts to develop the tobacco industry have been continued under the auspices of the Government during the year and a system of permits for the cultivation of tobacco without payment of tax was continued and extended.

By the end of the year 113½ acres had been registered as planted under the crop representing about a threefold increase over the area planted in previous years.

The Tobacco Factory continued operations during the year and new machinery in connection therewith was imported from England.

Tea.—The tea industry continued to exist under not very flourishing conditions throughout the year. Notwithstanding the fact that local tea received protection to the extent of about 60 cents per kilo they are unable to compete with imported Ceylon and Indian teas.

The local production for the past 33 years has been as follows :—

1888-97	...	...	...	5,000 kilos
1898-07	...	...	...	32,000 "
1908-10	...	...	...	35,000 "
1911-15	...	...	...	38,000 "
1915-17	...	...	...	30,000 "
1917-19	...	...	...	32,000 "
1919-21	...	...	...	20,000 "
1922	...	...	...	25,000 "

Coconuts.—No extensions of any great importance occurred in relation to coconut plantations during the year. There is however probably considerable scope for developments in relation to this industry in certain parts of Mauritius.

Of the Copra production from the Oil Islands 500 tons were exported to Mauritius.

Vanilla.—No developments in relation to Vanilla have to be recorded during the year.

Food crop.—The area under food crops showed an increase of about 3,500 arpents as compared with previous years. The estimated area under such crops amounting to 8,500 arpents as compared with 5,000 in 1921 and 19,600 in 1919.

The Maize Secherie was operated to only a small extent during the year. 30 tons of maize were treated. Importations of South African maize have served to restrict local production to some extent and it is probable that until a further considerable reduction in the cost of living shall have taken place, the industry can hardly be expected to stabilise itself once more.

Live Stock.—A marked feature in relation to the situation as regard live stock was the very large number of cattle imported from Madagascar, amounting to 12,914 of which 11,427 were utilised for slaughtering and 1,487 for sale as draft animals.

The ease with which animals can be imported from Madagascar and sold on the market at very low prices has influenced unfavourably the local stock raising industry, since animals suitable for draft purposes can be imported and sold for less than they can be raised on stock estates in Mauritius; in consequence interest in stock raising has considerably declined and several large herds belonging to breeders have been disbanded and sold.

The Stock Farm of the Department of Agriculture has been maintained during the year and a sale of stock was held in November.

Importations of Afrikaner Cattle from South Africa and of Sindhi cattle from India were approved during the year and steps taken to order the animals.

An important new departure lay in the creation of a Government Experimental Dairy at Curepipe for the stocking of which 25 grade Friesland cows were imported from South Africa, the milk from this Experimental Undertaking being supplied to Public Hospitals at Port-Louis and Candos.

The Mauritius Stock Breeders' Association continued operations and did useful work in relation to stock questions advising the Government on a number of points during the year.

Animal Diseases.—In February 1922 an outbreak of East Coast Fever was recorded on the dairy farm which had been inaugurated by private enterprise at Chebel; active steps were taken to stamp out the outbreak and, as a result, it is believed that the disease has been completely eradicated.

Surra especially on cattle, continued to give rise to considerable anxiety; in December 1922 a systematic examination of the animals throughout the island for Surra was inaugurated and resulted in showing that numerous centres existed at which the disease was present in a concealed form. It became clear that the existing regulations tended towards the concealment of cases of Surra and the emendation of the existing law to meet the circumstances is under consideration.

Up to the end of 1922, 32 centres of infection had been detected.

Considerable discussion took place during the year as to the advisability of introducing compulsory dipping, it was eventually decided to withhold action in relation to this measure for the time being.

Three public Dipping Tanks were erected during the year viz: at Rose-Hill, Pamplemousses and Flacq and the intention is to commence at an early date a campaign of persuasion with a view to inducing small stock owners at these points to avail themselves of the facilities offered for the dipping of their cattle.

Owing to the absence on leave of the Government Veterinary Surgeon, no progress is to be reported in relation to control of Tuberculosis on cattle during the year.

CO-OPERATIVE CREDIT SOCIETIES

The Co-operative Credit Societies Movement continued during the year, a number of new shareholders were admitted and two new Societies registered during the year.

On December 31st, 1922, 36 Societies were in operation, the total membership on June 30th, 1922, amounted to 3,641, while the total working capital on the same date amounted to Rs. 494,896, an increase of Rs. 49,104 compared with corresponding position on June 30th 1921.

HIGHER INSTRUCTION IN AGRICULTURAL SCIENCE

The plans for the College of Agriculture, the erection of which had been decided on as the result of discussion in previous years, were actively pushed on during 1922.

The Director of Agriculture while on leave visited a number of such Colleges in England and South Africa with a view to obtaining the latest information relative to equipment and methods of teaching. On his return, the Syllabus of Instruction of the new College was worked out in consultation with the College Advisory Board and steps taken to engage the necessary staff to get the project into working order. Plans of the buildings were prepared by Mr. H. Bulkseley Crosswell, F.R.I.B.A.

It is hoped that the new buildings will be completed by the end of 1923.

Mr. W. H. Edwards was appointed first laureate of the College for the purpose of studying Entomology at the Imperial College of Science and Technology and subsequently assuming the post of Assistant Lecturer in Entomology, in the College.

RODRIGUES

The scheme for agricultural development in this dependency made considerable progress during the year. The purchase of land for the creation of the Experiment Station at Oyster Bay was completed. An officer was appointed as Agricultural Superintendent and various lines of work were inaugurated on lines indicated in the Director of Agriculture's report of January 1921.

The season in Rodrigues was on the whole distinctly unfavourable, torrential rains in the early part of the year were followed by severe drought in the later months. The result was that at the end of the year the food supply of the island was short.

PART II

WORK OF THE DEPARTMENT OF AGRICULTURE DURING THE YEAR 1922

Staff Changes

The Director of Agriculture was absent from the Colony on leave in England from January 21st to October 12th.

During his absence, Mr. D. d'Emmerez de Charmoy acted as Director of Agriculture, Mr. P. R. Dupont as Assistant Director of Agriculture and Mr. J. W. Shand Harvey as Registrar of Co-operative Credit Societies and additional Assistant Director.

Mr. J. W. Shand Harvey died suddenly on September 24th and from the date of his death until the Director of Agriculture's return, Mr. d'Emmerez de Charmoy acted as Registrar of Co-operative Credit Societies.

Mr. Maxime Kœnig acted as Inspector of Co-operative Credit Societies from November 1st till the end of the year.

Mr. C. A. O'Connor, Agricultural Inspector in the Department of Agriculture, Zanzibar, was nominated as Agricultural Instructor and Inspector of Co-Operative Credit Societies in succession to Mr. Shand Harvey in December. Up to the end of the year he had not taken his appointment.

Mr. E. F. S. Shepherd, B. S.A., was nominated as Botanist and Mycologist but had not taken his appointment at the end of the year.

Mr. W. H. Edwards, Scientific Assistant in the Division of Biology, was appointed to the vacant laureateship of the College of Agriculture in June 1922. Mr. André Moutia was appointed to succeed him.

Mr. F. E. Lionnet, Government Veterinary Surgeon, proceeded on leave of absence in May 1922 and had not returned by the end of the year. During his absence, Mr. R. Bradshaw acted as Government Veterinary Surgeon.

Mr. Yves Lefebure, 5th Class Clerk, was appointed provisional Stock Inspector on the 10th April 1922.

Mr. X. Chouchoux was appointed as 5th Class Clerk on the 18th September 1922.

Mr. J. H. Nina, Assistant Inspector of Co-Operative Credit Societies, resigned his appointment on July 31st, 1922. Mr. A. Pakeeree, 6th Class Clerk, was appointed to succeed him.

Mr. E. Cartier was seconded for duty as Overseer of the Experimental Dairy in January 1922 and Mr. F. Massé was appointed to act as Overseer Curepipe Gardens.

Mr. R. Autard vacated his post as Manager Tobacco Factory in September 1st, 1922, Mr. R. Rechecouste, Manager, Maize Secherie, was appointed to succeed him as from December 1st 1922; during the interval, Mr. B. Emmanuel, Overseer Abercrombie Nursery, acted as Manager Tobacco Factory.

The year must be regarded as one of great departmental activity. A number of new lines of work were inaugurated, and the existing lines maintained.

The year will be remarkable as having seen the inception of the Agricultural College Scheme which has made considerable progress.

The work of the various Divisions is reviewed in the following pages in which excerpts from the report of the various Divisional Officers are given.

BIOLOGICAL DIVISION

The Entomologist reports as follows :

Phytopathology.—Filao disease was again observed as existing in a few localities but in a lesser degree than in previous years.

The Experimental plot at Le Bouchon, where diseased fields have been replanted in filao in 1920 has grown normally, showing no sign of the disease.

Citrus Canker—(*Pseudomonas citri*) was observed in its severest form at Belle Rive where it has practically wiped out the whole lime plantation.

Sugar Cane Smut—*Ustilago sacchari*—This fungoid disease was noticed seriously affecting certain imported varieties of Sugar Cane, chiefly the Indian ones.

Potato Blight.—*Ph. infestans*—This fungus and various others affecting vegetables were most prevalent in 1922.

Insect Pests

Insect pests of secondary importance have again been reported. Sprayers and insecticides were placed at the disposal of the public for dealing with various enemies of minor crops and ornamental plants.

Campaign against Phytalus Smithi

The campaign against *Phytalus Smithi* was carried out on the same lines as in 1921. The results of this campaign have been reviewed in a special report.

The parasitic wasp, *Tiphia parallela*, liberated at Joli Bois, two years ago some time after the discovery of the pest in that locality has rapidly increased in number and has proved most beneficial in the control of the pest.

The parasitism of this wasp was noticed to be as high as 25 per cent in the more heavily infested fields.

Plant Inspection

54 separate inspections of consignments of plants, tubers and fruits were made at the Customs, and at the Parcels Post Office 210 cases fruits and 47 parcels of tubers and plants were also examined.

Poultry

New birds were received from South Africa. The runs continued to remain under the supervision of the Biological Division.

Educational

Lectures were delivered as in previous years on Entomological and Mycological subjects to students of the School of Agriculture.

CHEMICAL DIVISION

The Chemist reports as follows:

The following samples were analysed during the year:

	<i>Samples</i>	<i>Dosages</i>
Dipping solutions ...	115	115
Phosphaté guanos ...	8	10
Fumiers and mixtures ...	10	29
Artificial manures ...	5	6
Guanos mélangés ...	20	100
Water ...	23	89
Green fodders ...	14	98
Lime ...	9	22
Oil cake and Rice Bran ...	2	13
Soils and Subsoils (Physical and Chemical) ...	21	325
Other determinations in soil experiments ...	11	74
Decolorising carbons experiments	6	33
Coin analyses ...	2	16
Miscellaneous ...	10	57
Cane and Cane juices ...	1,037	2,074
	<u>1,293</u>	<u>3,061</u>

Physical and Chemical analyses were made of samples of soils, and researches on the influence of molasses on soils continued.

Some experiments were made on the decolorising carbons "Darco," "Carbrox," "Karboraflin," "Delcomyte," "Nobrac" and "Norib" which show that their adjunction with Kieselguhr could be of some utility in Sugar manufacture if their prices were not very high.

"Controle Mutuel" Returns

Thirteen usines contributed to the "Controle Mutuel" Returns and four sets of returns were received, compiled and distributed to the interested parties during the crop.

Educational

The Assistant Chemist and Senior Scientific Assistant delivered altogether 79 lectures to the Students of the School of Agriculture.

VETERINARY DIVISION

The Government Veterinary Surgeon reports as follows:—

Importation of Animals

During the year 1922, animals were examined on board 61 steamers and schooners, the total number of animals imported amounted to 19,055.

The following statement shows the different classes of animals imported:—

Madagascar Bullocks ...	12,914
Cows and Bulls ...	280
Pigs ...	1,847
Sheep ...	863
Goats ...	2,743
Horses ...	174
Ponies ...	135
Mules ...	80
Dogs ...	15
Rabbits ..	4

Total ... 19,055 animals

Inspection of Government Animals

Animals of the following Departments were attended during the year for various complaints :

Agricultural Department.—Four Donkeys were treated for Surra ; One Jersey Cow died from Surra and the whole herd of cattle received three injections of Soamin.

Barkly Asylum.—1 Cow, 1 Heifer and 6 Sheep.

Police Department.—8 Horses.

Medical Department.—1 Mule, 2 Donkeys. Bullocks used in connection with the Sanitary Services were treated for Surra at Roche Bois, Curepipe and Mahebourg.

Stud Animals.—The Stud Bulls of the Department have been stationed as follows :

Les Salines.—Ongole Bull.

Belle Mare.—Hissar and Friesland Bulls.

Labourdonnais.—Friesland Bull.

Britannia.—Mysore and Ongole Bulls.

Contagious Diseases

Surra.—In May 1922 a Stock Inspector was appointed to assist the Veterinary Surgeon. As a result increased measure of precaution against Surra became possible and a considerable number of centres of infection were detected throughout the Colony, infected animals being met with during the winter as well as the summer months. Owners were compelled to cause their infected animals to be treated without delay, failing which slaughtering was ordered.

At the end of the year, an Assistant was appointed to the Stock Inspector and the work of Inspection systematised, district by district being thoroughly surveyed. There are good grounds for believing that a formidable outbreak of Surra would have occurred during the summer months of the year throughout the Colony had not these measures been carried out, since in the majority of cases detected the infected animals were in apparently good condition and working on public roads or on estates.

East Coast Fever.—A serious outbreak of this disease occurred during the year on newly imported animals of a private dairy. The disease had never been previously recorded in Mauritius. Immediate measures of control were taken and all infected animals having died in spite of all efforts, the slaughtering of the remaining cattle was resorted to as being the only means of preventing the spread of the disease. Pastures where the animals had been grazed were placed under quarantine while all cattle stabled within a radius of one mile from the centre of infection were placed under observation in their respective stables and inspected daily. These measures proved successful and no further cases of the disease were detected during the year.

Anaplasmosis.—One case of this disease was detected on a cow stabled in the close vicinity of the dairy mentioned above. The animal was isolated and inspected daily. It subsequently recovered and was slaughtered for consumption.

Tetanus.—Three cases of tetanus were detected, the infected animals being a poney and two mules.

Cases of cruelty

One case of cruelty was examined at the request of the Police.

Meat inspection

Surprise visits were paid to various abattoirs of the Colony and, as a result, the carcasses of seven animals under age were seized and contraventions entered.

Dipping Tanks

Considerable attention and time were devoted to this question during the year. The erection of four tanks by Government was undertaken : one at the Government Dairy, Curepipe ; one at Plaisance Rose Hill ; one at the Royal Botanical Gardens, Pamplémousses and one at Constance d'Arifat, Flacq.

By the end of the year, the erection of all four tanks was practically complete and steps taken to organise public dipping services at these points. Every opportunity was taken to emphasize the benefits to be derived from the regular dipping of cattle and, a number of new dipping tanks were erected on estates ; there are now 57 tanks in the Colony.

STATISTICAL DIVISION

The Statistician reports as follows :

The Blue Book Statistics relative to Agriculture were supplied to Government. Statistical data were also supplied to the International Institute of Agriculture, Rome, to the Board of Trade, the Colonial Secretary's Office, the Immigration Department, &c.

The usual crop forecasts were prepared and submitted to Government.

Monthly reports on weather and crop conditions were issued and special reports on the Agricultural Census, on the economic conditions of small planters &c., were submitted to Government.

Lectures in agricultural meteorology were delivered weekly to 2nd year students, during the months January to May.

A Bulletin on the Live Stock of the Colony was published and an investigation on the correlation between various meteorological elements and the production of sugar is in the press.

The meteorological service of the Department continued its work under the general direction of the Statistician. Observations of temperature, relative humidity and rainfall are taken at the Central Experiment Station, Réduit and at Secondary Stations at the Royal Botanical Gardens, Pamplémousses; Nursery Gardens, Curepipe; Abercrombie Nursery, Port Louis; Mahebourg Demonstration Plot and Médine Irrigation Experiment Station, Black River; while a large number of Sugar Estates voluntarily contribute rainfall observations. These data are reduced and coordinated to assist in the work of crop forecasting and for general investigations on problems connected with climatological factors.

The Statistician acts as Secretary to the Board of Agriculture to the Tractors Committee and to the Advisory Board of the College of Agriculture. From October 18th to February 6th, 1923, he also acted as Inspector of Co-Operative Credit Societies.

AGRICULTURAL DIVISION

Activities in this direction were regrouped during the year and placed under the charge of the Additional Assistant Director in the form of a separate Division, the responsibilities of which include work in relation to development of minor crops e.g. Tobacco Industry, Maize Sécherie, together with Food Plantations and work in relation to School Gardens.

Food Settlements.—The Food Settlements at La Ferme and St. Martin were maintained satisfactorily throughout the year. At La Ferme approximately 143 acres are under cultivation, at St. Martin 30 acres and at St. Thomas 26 acres.

The principal crops grown are maize with some potato and manioc while a certain area also cultivated in tomatoes, bringals and other vegetables. At St. Thomas a certain area is also cultivated in tobacco under permit.

At St. Martin fair progress has been made and the situation is much more stable than at La Ferme, many of the settlers have erected permanent dwellings and the whole settlement has a distinctly prosperous appearance. The principal reason for this is that it has been found possible to bring a water supply in pipes to the greater part of the settlement for drinking and domestic purposes.

There is not much reason to doubt that similar developments would soon take place at La Ferme if similar provision could be made. The question was discussed during the year but no definite decision was arrived at.

The small Co-Operative Credit Societies in connection with these Food Settlements continued to do useful work during the year.

Maize Sécherie.—Owing to the prices at which locally grown maize was sold during the year, the Maize Sécherie was operated to a very limited extent. The effect of importations of South African maize had been to some extent to obliterate fluctuations in the prices at which locally grown maize was sold at different seasons of the year and in consequence to lessen the scope of the Sécherie.

Actually the following is the statement of operations during the year :

Shelled maize purchased tons	Mean moisture content wet corn	Mean moisture content dry corn
24,223	18%	11.6%

Owing to fluctuations in the market, the whole of the maize purchased in the previous season, had not been disposed of by the time the new crop had come in.

As a result, it became necessary to limit operations. By the end of the year however, all stocks of corn in hand had been disposed of. The grinding machine was operated during the year mainly for grinding maize for consumption in Government establishments.

Tobacco Industry.—Efforts to extend the cultivation of tobacco were vigorously prosecuted during the year. The scheme for cultivating tobacco free of payment of tax under permit was extended and at the end of the year applications for 114½ acres under permit had been made.

A system of regular inspections of all Tobacco plantations was inaugurated and a register of tobacco growers started, in which the conditions of the various plantations at the time they were visited were noted.

Tobacco planting has been taken up to some extent in practically all districts but it is in Flacq that the largest area exists.

Some of the Indian cultivators in Flacq have been in the habit of cultivating tobacco for a long time. The process of curing is very well understood by growers. It is however difficult to persuade those people who have been growing tobacco previously to substitute the cultivation of "Tabac bleu" for that of the varieties locally known as Calcutta and Coringby which they have been in the habit of cultivating for many years.

The arrangement for the supply of seeds and young plants of "Tabac Bleu" to intending growers were continued and extended.

The Tobacco Factory was operated throughout the year, the total amount of leaves received amounted to 11,183 kilos.

The following Tabular statement summarises working during the year :

Tobacco leaves received by the Factory...	...	11,183½ kilos
Carottes made	...	2,115 carottes
Number of recarottings made during the year	...	11,354 „
Number of carottes worked...	...	806 „
Raw tobacco obtained	...	3,214 kilos
Sifted dry tobacco obtained	...	869 „
Dust and butts	...	1,567 „
Sifted tobacco % raw tobacco	...	27.1 „
Tobacco delivered for sale	...	1,222 „

The Director of Agriculture, during his leave in England, by arrangement with the Colonial Government, made enquiries and selected new machinery for the Tobacco Factory. The machinery included a tobacco cutting machine manufactured by Messrs. Robert Legg and Sons and a grind stone for sharpening the knives, a Lister 4 H. P. petrol engine and necessary shafts and pulleys. By the end of the financial year the machinery had arrived but had not been erected.

In October 1922, in accordance with instructions received from the Officer Administering the Government, the Tobacco Factory was retransferred from Artillery Barracks to Line Barracks.

Sisal Plantation.—The Sisal Plantation at Plaine Lauzun was maintained during the year and was further extended by the inclusion of 35 acres of land on the western side of the Railway; the total area under Sisal at this point is now 60 acres.

Lime Plantation.—The experimental plantation of lime at Belle Rive was abandoned towards the end of the year, it had for some time past been evident that the health of the trees was seriously impaired; during the course of the year it became evident that the trouble was due to the invasion of Citrus canker, "*Pseudomonas citri*" a disease which was not known to have existed previously in the Colony. In the circumstances it became clear that there could be little or no future for the cultivation of citrus plants and the plantation was abandoned.

Work in relation to School Gardens.—At the instance of the Officer Administering the Government, work in relation to School Gardens was taken up vigorously during the year. A new scheme in relation to School Gardens work providing for registration and inspection had previously been inaugurated, and under this scheme a series of inspections were made of all existing school gardens in the Colony; as the result, many of the school gardens were found to be very inefficiently worked and were closed, and by the middle of the year, the total number of school gardens in existence had been reduced to 12. Three new school gardens have since been registered.

Simultaneously arrangements were made for the supply of seeds to school gardens to be placed under the supervision of the Department of Agriculture in consultation with the Superintendent of Schools, while a stock garden for the raising of plants and seeds for distribution to school gardens was inaugurated at Réduit. As the result of these efforts, a marked improvement can be observed in the general standard of school gardens work and it is hoped that by systematic work on these lines, considerable extension will in the end be secured.

DIVISION OF AGRICULTURAL INSTRUCTION

The death of Mr. Shand Harvey occasioned a considerable break in the continuity of the work of this Division.

Co-Operative Credit Societies.—Co-Operative Credit Societies work was maintained on the usual lines up to the death of Mr. Shand Harvey. Subsequently until the end of the year, Mr. M. Koenig, Statistician of the Department took charge of the work of Inspector Co-Operative Credit Societies. Owing to the break in the continuity of the work some difficulties were encountered in relation to certain Societies during the latter part of the year.

A successful Agricultural Show was held under the auspices of this Division in August 1922.

DIVISION OF EXPERIMENT STATIONS

Central Experiment Station.

The Agricultural Superintendent reports as follows:—

Experiments with canes.—Experiments with various varieties of Sugar Canes, have again been conducted in different parts of the Colony. Experimental plots of plants and ratoons were reaped at the following places: Réduit, Pamplemousses, Queen Victoria, Highlands, Beau Vallon, Britannia, Labourdonnais and Long Mountain.

Both at Pamplémousses and Reduit, experiments were continued with the cutting and leaving of "Babas shoots" and an experiment on the trashing and non-trashing of canes was also carried out at Pamplémousses.

At Réduit 20 manurial plots, which had been treated with varying quantities of molasses, and Sulphate of Ammonia, were reaped and results recorded. The experiment with Nitrate of Ammonia, was continued at Reduit, on 1st Ratoons.

New cane variety plots have been established during the year, at Reduit, Pamplémousses, Labourdonnais and Britannia, a few of the newer varieties of canes raised from seedlings by the Department being introduced at outstations for the first time.

A new experiment was commenced at Reduit, to determine the respective value of several green dressings, as a preliminary to the planting of canes. This experiment will be continued by the application of different fertilizers, to different parts of the field.

From the seedling canes raised at Pamplémousses during the year 1921 and planted out in one hole trials, 108 have been selected for further trial on 6 holes plots; a further selection of the best of these will be made during 1923. From the 6 hole trials of 1919 seedlings raised at Reduit, 15 canes were selected and planted out in 30 hole trials, no selection was made from the 1920 sowings at Pamplémousses; this will be done early in 1923.

During the year, 780 seedling canes were raised at Pamplémousses these have been planted out in one hole trial. In addition to the 6 hole trials at Réduit, 1,014 varietal plots were reaped experimentally, these include plots on different estates and at Pamplémousses and Reduit.

The total number of samples crushed in the mill at Réduit was 1,029, in every case the juice was weighed and sent for analysis to the Chemical Division.

Cuttings of the best varieties of canes have been distributed among planters and a certain number sent overseas, including two collections sent to Java.

Reaping of the crop was completed on December 9th, all canes reaped at Réduit were sent to Trianon mill. Total yield of cane was 178,150 kilos showing an increase over last year's yield of 71,850 kilos.

Experiments with other Economic Crops

Further experiments with the following food crops, have been carried out during the year, namely:—

Maize—breeding by selection trials	
Sweet potatoes—trials with 48 varieties	
Yams—	12
Eddoes and Tannias	8
Ground nuts	12

The 44 varieties of manioc, planted out for further trial were not reaped experimentally owing to their being badly attacked by a fungoid disease, probably *Gleosporium*.

At Pamplémousses, most of these experiments were duplicated. All the surplus stock of yams—300 kilos, Eddoes and Tannias—900 kilos and a considerable number of sweet potato vines were distributed among planters.

A large quantity of tobacco seed was supplied to planters and thousands of plants have been raised, both for sale to growers and for use in the Department.

An experiment with organic and inorganic manures on a series of plots of tobacco was carried out at Reduit and duplicated at Pamplémousses; all the tobacco being sent to the Tobacco Factory.

Four pounds of onion seed were received from Teneriffe, part of this was sold and from the remainder, plants were raised and trial plantations made at Réduit, Abercrombie, Pamplémousses and Curepipe. Excellent results were obtained especially at Abercrombie and Pamplémousses.

Two motor tractors, a number of ploughs and cultivators were received by the Department in July and sent to Mon Désert Estate for demonstration purposes in November.

A trial was made at Réduit both on ordinary deep ploughing and on dechicotage which was quite successful.

Stock Farm.—The Stock Farm continues to make satisfactory progress. Although a severe outbreak of Surra occurred during the early months of the year, all the cattle with one exception remained free from the disease.

Considerable difficulty was experienced however, as all carting had to be done by hand, the farm being in quarantine and cattle confined to the stables.

The following births were recorded:

1 pure bred Hissar bull calf
1 " Ongole "
1 " Holstein Friesland heifer calf
2 three-quarter bred Holstein Friesland heifer calves
1 pure bred Mysore bull calf.

The Jersey cow, Elsenberg Goldie 2nd, died of Surra on August, 30th.

During the year, the following pure bred bulls stood for services at the following Estates :

Helstein Friesland, Réduit Chieftain 1st—Labourdonnais—July–September.

Belle-Mare —September–November.

This bull is now stationed at the Government Dairy, Curepipe.

Ongole bull, Hathi 2nd—Les Salines, June–August.

—Britannia, October–January, 1923.

Hissar bull, Amir 2nd—Belle-Mare, June–October.

Mysore bull, Nizam 2nd—Britannia, July–October.

Owing to the Stock Farm being in quarantine during the Surra epidemic, very few services were recorded as compared with last year. Services were as follows :

Pure bred Holstein Friesland, Rivenhill Chieftain	...	...	4
Pure bred Holstein Friesland Réduit Chieftain	...	...	9
„ Ongole, Hathi 1st...	...	...	1
„ Hissar, Amir 1st	...	...	4
„ Friesland Elsenberg Bean Brommel	...	...	29
			—
			47

In December, the number of stock had so increased, that it was decided to hold a sale the stables being crowded, and more births expected.

Ten beasts were sold from the Farm viz. :—

2 pure bred Hissar bull calves	
2 „ heifer „	
1 „ Holstein Friesland bull	
1 „ „ bull calf	
1 $\frac{3}{4}$ bred Holstein Friesland bull	
1 „ „ bull calf	
2 pure bred Mysore bull calves.	

In addition to the above, a number of rams from Rodrigues and La Ferme and cattle from Barkly Asylum were sold.

All cattle were passed through the dipping tank weekly and are in good condition.

Buildings and roads.—A new roof was erected over the dipping tank and the making and erection of concrete posts, near the exit race from the tank has been completed.

A new row of quarantine kennels for dogs was erected near the Stock Farm as there was not sufficient accommodation in the dogs' quarantine station near the Bacteriological Laboratory.

A fuming pit latrine was erected near the labourers' camp ; an improvement was made near the labourers' camp by the destruction of the untidy gardens, some forest land was cleared and divided up into plots each labourer being allotted one plot.

All labourers' houses have been repaired during the year and improvements made in the Sirdar's stores.

The donkey stables have been re-roofed.

All roads were kept clean and in good repair, slight improvements being made in different places.

Royal Botanical Garden, Pamplémousses

Economic Section.—Usual experiments with canes and economic crops were carried out during the year. The experiments with tobacco were continued during the year. Dried leaves derived therefrom were sent to the Tobacco Factory.

The total yield of tobacco amounted to 664 kilos of dried leaves.

The lime and areca plantations were maintained in good condition.

Ornamental Section.—The ornamental section was maintained in good order during the year and the improvements effected in the previous years are now beginning to have their full effect.

Small repairs were made to buildings and the railing round the Liénard Column was repainted.

Kiosks were rethatched.

The work of preparing herbarium specimens for identification was continued. Identifications were received from Kew in respect of 40 specimens whose identity had previously been lost. These were all labelled in accordance with the identification.

A large number of seeds, cuttings and plants were distributed during the year both locally and to foreign sources while planting material was received locally from the Forest Department, Messrs L. Baissac, F. Bijoux, Gabriel Régnard and J. Closel and from abroad from Java.

The rainfall recorded during the year was 86.52 inches. It is estimated that 10,146 visitors visited the gardens during the year, while 271 picnics were held on the grounds.

Curepipe Gardens

Economic Section.—The economic section was maintained in good order, the tea plantation was pruned in July.

Ornamental Section.—Plants in the rosery were lifted and replanted during the year. The remainder of the section was maintained in satisfactory order.

Educational Section.—The section was maintained in satisfactory condition. Botany classes from the Royal College received regular instruction in this section. The model school garden was kept in good order throughout the year.

Nurseries.—Nursery work was maintained and ornamental plants sold to public and supplied to Government Institutions.

The maintenance of the plantations at Floréal remained under the charge of the Overseer throughout the year.

Abercrombie Nursery

In spite of a certain unexpected administrative difficulties, the nursery made fair progress during the year. The number of fruit trees sold increased considerably while the revenue from sales of plants amounted to Rs. 2,901. In addition to plants sold, considerable numbers of plants were distributed from the Nursery to Government Institutions.

There is no doubt that the nursery is supplying a distinct need and being given facilities for expansion, is capable of growing to considerable proportions.

The following is a list of plants sent out during the year :

Letchi layers	...	...	211
Budded oranges	...	...	193
„ mandarin	...	...	8
Coconuts	...	...	392
Sweet sop	...	...	392
Peach	...	...	103
Citron	...	...	242
Tobacco plants	...	...	1,600
Bibasses	...	...	31
Mango grafts	...	...	213
Mango seedlings	...	...	114
Seedling mandarin	...	...	31
Avocado pear	...	...	123
Anona cherimoya	...	...	19
Guava	...	...	142
Limes	...	...	475
Coffee liberica	...	...	1,119
Coffee arabica	...	...	25
Miscellaneous economic and palm plants	...	...	817
Total	...	...	6,250

Victoria Hospital.—The planting up of the grounds of Victoria Hospital was completed during the year and the lands handed over to the Medical Superintendent.

Government House Grounds

The grounds were kept in good order. The clearing of a considerable extent of undergrowth at certain points, among which were the square of exotic fruit trees and the rubber square, has added much to the general aspect of the grounds.

Flower gardens.—The flower gardens received proper attention, Mention should be made of a new arrangement of flower beds inaugurated during the year and of the establishment of rockeries at suitable spots in the Pleasure Grounds.

In the Green House, Fernery and Pleasure Grounds certain new plants were introduced.

Supplies of vegetables and fruits from the kitchen gardens and orchards were maintained throughout the year and special efforts were necessary on account of the long drought experienced during the latter part of the year.

Plant diseases were less prevalent than usual and excellent crops of peas, beans, potatoes and tomatoes were obtained.

Irrigation Experiment Station Médine

This Experiment Station is intended for the investigation of questions connected with the irrigation of sugar cane.

The station itself is situated at Médine and in all comprises about 30 acres of land.

The work of laying out the Station was commenced in May 1920 and by the end of 1921 the majority of the heavy work had been completed. The first fields were planted in December 1921. During 1922 the laying out of the station was completed, and the remaining fields planted.

The following experiments have been laid out :

1. Variation of depth of watering on 12 months planting,
2. Variation of depth of watering on 17 months planting,
3. Various forms of manurial treatment in relation to varying depths of watering,
4. Weekly watering against fortnightly watering,
5. Watering at night as against watering during the day,
6. Trials of different cane varieties under irrigated conditions.

The first field was reaped on the 12th to 18th December 1922 and the canes sent to Médine Factory.

The equipment of the Station comprises :

1. A storage reservoir of 22,500 cubic feet capacity.
2. 545 feet of main canal in concrete,
3. 1,550 feet of secondary distributory canal in concrete,
4. 15,200 feet of lateral distributory canal.

The fields have all been surveyed and the stones contoured in rows following the contours, the furrows also follow the contours the layout of the station being in accordance with the plan described in Bulletin No. 5 of the Department of Agriculture.

The canals are provided with V notches so that the water sent into any particular section is capable of being accurately measured.

The first reaping of the complete series of experiments will take place in 1923.

In connection with the work of the experimental station an elaborate series of growth measurements of cane have been planned.

The general supervision of the work of the Station remained under the charge of Mr. Shand Harvey until his death and was then taken over by the Assistant Director.

Experimental Dairy

This effort, the creation of which was indicated in the report for the previous year was got into going order during the year.

The cows for stocking the dairy, 25 in number were ordered from South Africa through the courtesy of the Union Department of Agriculture and arrived on January 3rd 1922. Of these, 24 were sent to Curepipe and one to Réduit. Two cows died during the year, one as the result of injuries sustained during the course of transport in January 1922 and the other from pneumonia on May 5th, 1922.

12 cows calved during the year, of these two were premature and the calves were born dead.

Eighteen cows were in milk during the year, the total yield of milk to December 31st being 30,733 litres.

A part of the scheme consisted in the testing of the suitability of the lands at Curepipe for pasturage and for the purpose 10 acres of land were cleared and fenced and a dipping tank erected. Owing to delay in the completion of the dipping tank it was not possible to get the animals out to pasture before the end of the year.

Of the total milk yielded 21,161 litres were supplied to the Civil Hospital, 4,915 to the Victoria Hospital and 4,483 litres fed to young stock.

Modern methods of dairying were practised throughout and the calves separated from the mothers at birth and hand fed.

In handling the milk, so far as working conditions would allow hygienic precautions were throughout observed, all cans and vessels were washed and steam sterilised after use.

The cow houses are temporary structures only and are admittedly very rough but so far as conditions allowed they were maintained in a hygienic state while the animals were kept as clean as possible and their udders washed with soap and water before milking.

The half bred bull Klipdam was stationed at the Dairy until November when he was replaced by the pedigree pure bred Friesland bull, Reduit Chieftain I. In addition to services for the dairy cattle the animals were also made available for service of cows of residents in the neighbourhood on payment of the usual service fee.

Rainfall

The Rainfall of the various Experiment Stations was as follows :

Réduit Central Experiment Station and Government

House Grounds	...	...	...	76.09 inches or 1932.9 millim.
Royal Botanical Gardens, Pamplémousses...	...	...	...	85.48 " or 2172.1 "
Curepipe Gardens	...	...	...	149.16 " or 3789.3 "
Abercrombie Nursery	...	...	...	68.46 " or 1739.7 "
Médine Experiment Plot	...	...	...	56.06 " or 1424.1 "
Mahebourg Demonstration Plot	...	...	...	63.29 " or 1607.9 "

SCHOOL OF AGRICULTURE

The work of the School of Agriculture was continued during the year on the usual lines. Lectures were delivered as under, by various officers :—

Agricultural Chemistry	...	...	...	79 lectures
Botany	...	...	...	12 "
Zoology and Entomology	...	...	...	39 "
Agriculture	...	...	...	19 "
Animal Husbandry	...	...	...	15 "
Total				164 "

The lecturers were the Assistant Director, the Additional Assistant Director, the Assistant Chemist, the Scientific Assistants, the Agricultural Superintendent and the Government Veterinary Surgeon.

The laboratory work of the students was systematically supervised and their notebooks periodically inspected.

Visits were paid by Senior Students to Sugar Estates and other places of agricultural interest in the Colony.

In connection with the lectures in Agricultural and Veterinary science arrangements were made during the second term for Estate employes; not regular students of the School of Agriculture, to attend these courses on payment of a small fee. In all, 28 estate employes attended the course.

In connection with the work of the school, a course of 20 lectures was delivered by the Agricultural Superintendent in Elementary Nature Study adapted to the requirements of teachers in elementary schools.

In relation to the Agricultural College, 4 meetings of the Advisory Board were held during the year. Matters in relation thereto are dealt with in the general section of this report.

RODRIGUES

The Agricultural Superintendent reports as follows :

This branch of the Department came into being during the current year, and I arrived to take up the duties of Agricultural Superintendent in April last. The branch commenced operations as from August 8th. The clearing of ground for the the Experimental Station was taken in hand immediately, on the property purchased by the Government at Oyster Bay, and by the end of the year, 4 acres had been cleared ready for planting. This area is divided up into eight $\frac{1}{2}$ -acre plots.

Buildings were also erected for the animals belonging to the Government which were all moved to the Farm in September.

At the Farm there are at present the following animals :

(a) Nigerian sheep	...	...	...	33
(b) Donkeys	...	...	...	20
(c) Pigs, middle white	...	...	...	4
(d) Normandy bull	...	...	...	1

The Superintendent visited different localities during the year to gain first-hand knowledge of the agricultural conditions prevailing, and also to advise the planters on their difficulties.

The Agricultural Society was revived under the Presidency of the Magistrate and the Superintendent gave several lectures to the Society on the following subjects :

"The Cultivation and Drying of Tobacco," "The Cultivation of Potatoes," and "Co-operative Credit Societies."

An Agricultural Show has been arranged for the coming year and also a Prize Holding Scheme.

The year cannot be said to have been one of the best experienced on the island : during the early months of the year torrential rains were experienced which washed all crops out of the ground and during the latter half a drought was experienced.

The following products have however been exported to Mauritius during the past year :

Cattle	...	147	Sheep	...	815
Goats	...	2,684	Pigs	...	1,562
Tobacco	...	604 bales	Garlic	...	224 bags
Beans	...	443 bags	Pumpkins	...	14 bags

BOARD OF AGRICULTURE

The Board of Agriculture, established under Ordinance No. 30 of 1912 consists of :

His Excellency the Governor, President.

The Honourable the Director of Agriculture, Vice-President.

The following members were appointed for 1922 :—

The Honourable G. Antelme	Messrs. J. J. Gibson
" J. A. Duclos C.M.G.	A. Hugnin
" M. Martin	M. Lagesse
" M. Noël C.B.E.	F. N. Langlois
" M. d'Unienville	F. A. Nicholls
Messrs. Th. L. d'Arifat	G. Regnard
E. Carcenac	E. Rouillard
H. G. Ducray	F. Sakuldeep
L. F. de Froberville	A. Wiehé

In 1922, one meeting of the Board was held on December 6th.

The following papers were laid before the Board :

Annual Report of the Department of Agriculture for 1921.

Annual Report of the Co-operative Credit Societies for 1921-22.

Bulletins Nos. 23, 24, 25 and 26 of the General Series.

Bulletins Nos. 7 and 8 of the Scientific Series.

Bulletin No. 6 of the Statistical Series.

Leaflet No. 16 of Bovine Tuberculosis.

Final Estimate of the 1922-23 Sugar Crop.

The following questions were also discussed by the Board :

1. Agricultural Shows
2. Tractor trials
3. School of Agriculture

PUBLICATIONS

The following publications were issued during the year :—

Bulletins :

General Series—

No. 24—"The Deterioration of White Sugar during Storage in Mauritius," by H. A. Tempamy, D.Sc., F.I.C., F.C.S., Director of Agriculture, and D. d'Emmerez de Charmoy, Assistant Director.

No. 25—"Measures for the Destruction of Rats."

No. 26—"Hints on the Establishment and Management of School Gardens," prepared by P. R. Dupont, Ing. Ag., Additional Assistant Director, with the assistance of other Officers of the Department of Agriculture.

Scientific Series—

No. 8—"Insect Pests of various Minor Crops and Fruit Trees in Mauritius," by D. d'Emmerez de Charmoy, Assistant Director and Entomologist, and S. Gébert, late Scientific Assistant, Division of Biology, with an Appendix on "Introduced Insects in Mauritius" by D. d'Emmerez de Charmoy.

Statistical Series—

No. 6—"Census of Cattle in Mauritius, 1921," by M. Koenig, Statistician.

*Leaflet Series :—*No. 16—"Tuberculosis in Breeding Herds."

The following reports and memoranda were prepared and submitted to the Council of Government and the Board of Agriculture :

Report on Co-operative Credit Societies.

Report on operations against *Phytalus Smithi*.

Preliminary forecast of the 1922-23 Sugar Crop.

Final forecast of the 1922-23 Sugar Crop.

LEGISLATION

The following Notifications relative to Agriculture were issued during the year :

Government Notification No. 67 of 22.2.22—*re*: Regulations for the control of Animal Diseases.

Government Notification No. 82 of 11.3.22—*re*: To protect a part of Black River district from Surra.

Government Notification No. 214 of 19.8.22—*re*: To amend the Rodrigues Fishery Regulation, 1920.

Government Notification No. 215 of 19.8.22—*re*: Regulations for securing order and preservation of property in Public Gardens.

Government Notification No. 237 of 9.9.22—*re*: Circular Despatch Right Honourable Secretary of State relative to Destructive Insects and Pests Order 1922.

EXPENDITURE AND RECEIPTS

The expenditure of the Department has been as follows :—				Rs.	c.
Personal Emoluments	...	...	...	88,258.78	
Maintenance of Gardens	...	...	...	13,812.97	
General Services	...	...	...	3,069.69	
Prevention of Plant pests and Diseases	...	...	...	3,453.35	
Prevention of animal Diseases	...	...	...	13,793.86	
Upkeep of Stock	...	...	...	8,946.20	
Establishment of Demonstration Plots	...	...	...	1,427.95	
Subvention to Société Horticole	...	...	...	1,000.00	
Travelling Expenses	...	...	...	10,994.29	
Miscellaneous Expenses Co-operative Credit Societies	...	...	...	15.00	
Maintenance of Food Plantations	...	...	...	2,367.62	
Maintenance of Experiment Stations	...	...	...	15,109.60	
Minor Industries	...	...	...	21,834.63	
Apparatus and Chemicals	...	...	...	9,898.70	
Nursery for Economic Plants	...	...	...	1,477.35	
Registration of Chemists Examination	...	...	...	72.25	
Destruction of Phytalus Smithi	...	...	...	42,543.29	
Experimental Station for irrigation of canes	...	...	...	19,497.67	
Upkeep of Plantation at Floreal	...	...	...	533.12	
Dairy { Capital Expenditure	...	...	...	16,941.92	
Upkeep Expenses	...	...	...	17,425.20	
Agricultural Shows	...	...	...	400.00	
Purchase of Raw Tobacco	...	...	...	24,750.18	
Purchase of maize for kilndrying	...	...	...	5,297.86	
Loans to Co-operative Credit Societies	...	...	...	...	
24/Spec. Remuneration to Mr. Bradshaw	...	...	...	361.29	
Spec. R. Dupont, Transfer of furniture	...	...	...	750.00	
Special—Introduction of Tractors	...	...	...	6,796.64	
Special—College of Agriculture	...	...	...	3,750.00	
Total				334,579.41	

The receipts were :—				Rs.	c.
Sale of Flowers and Plants	...	...	...	4,559.69	
Services of Animals	...	...	...	330.25	
Sale of eggs and Poultry	...	...	...	295.54	
Sale of Canes	...	...	...	2,137.90	
Analytical fees	...	...	...	484.00	
Lectures fees	...	...	...	280.00	
Students' fees	...	...	...	460.00	
Miscellaneous	...	...	...	1,249.63	
Rent of Tea Plantation	...	...	...	550.00	
Sale of Tobacco	...	...	...	9,498.63	
Sale of Maize	...	...	...	23,095.67	
Contribution C.C.S.	...	...	...	1,055.00	
Veterinary fees (Customs)	...	...	...	1,781.50	
Destruction of Phytalus Smithi and Creation of College of Agriculture (Customs)	...	...	...	85,822.17	
Loans repaid by Co-operative Credit Societies	...	...	...	5,335.00	
Interest on Loans	...	...	...	742.69	
Rent of Crown Lands at La Ferme and St. Martin	...	...	...	335.00	
Sale of Milk—Experimental Dairy	...	...	...	7,569.90	
Total				145,582.57	

GENERAL

Examinations for the Registration of Agricultural Chemists were held in June 1922, the examiners being Messrs. D. d'Emmerez de Charmoy, P. R. Dupont, E. d'Avray, P. de Sornay, E. Haddon. One candidate presented himself for the preliminary and one for the final examination, both passed.

The Acting Director of Agriculture visited Rodrigues in June and the Director in December.

H. A. TEMPANY,
Director of Agriculture.

April 12th, 1923.

